AMENDMENTS TO THE CLAIMS

Cancel Claim 19 without prejudice. Please accept amended Claims 2-10 and new Claim 20 as follows:

1. (Original) A method for generating one or more computer-executable procedures, comprising the steps of:

recording at least one trace of at least one instance of a procedure;

simultaneously performing an alignment and generalization of the at least one trace; and

generating the one or more computer-executable procedures consistent with the alignment and generalization.

2. (Currently Amended) The method of claim 1, wherein simultaneously performing an alignment and generalization of the at least one trace further comprises the steps of:

computing all possible alignments and generalizations of the at least one trace; and

selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes a goodness of an alignment-generalization functional.

3. (Currently Amended) The method of claim 2, wherein selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes a goodness of the alignment-generalization functional comprises selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes a goodness of an alignment functional and a goodness of generalization functional.

4

4. (Currently Amended) The method of claim 3, wherein selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes ~~a goodness of the~~ alignment functional and ~~a goodness of~~ the generalization functional comprises selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes ~~a goodness of~~ the alignment functional equal to a sum of steps correctly predicted by a procedure model.

5. (Currently Amended) The method of claim 3, wherein selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes ~~a goodness of the~~ alignment functional and ~~a goodness of~~ the generalization functional comprises selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes ~~a goodness of~~ the generalization functional that is equal to a sum of steps correctly generalized by a procedure model.

6. (Currently Amended) The method of claim 2, wherein selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes ~~a goodness of the~~ alignment-generalization functional comprises selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes a ~~motonically~~ monotonically increasing function of ~~a goodness of~~ an alignment functional and a ~~goodness of~~ generalization functional.

7. (Currently Amended) The method of claim 6, wherein selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes a ~~motonically~~

monotonically increasing function of ~~a goodness of~~ the alignment functional and ~~a goodness of~~ the generalization functional comprises selecting the alignment and the generalization from the all possible alignments and generalizations that maximizes a linearly increasing function of ~~a goodness of~~ the alignment functional and ~~a goodness of~~ the generalization functional.

8. (Currently Amended) The method of claim 1, wherein simultaneously performing an alignment and generalization of the at least one trace further comprises selecting an alignment and generalization by maximizing ~~a goodness of~~ an alignment-generalization functional using an optimization technique.

9. (Currently Amended) The method of claim 8, wherein selecting an alignment and generalization by maximizing ~~a goodness of~~ an alignment-generalization functional using an optimization technique comprises selecting an alignment by maximizing ~~a goodness of~~ the alignment-generalization functional using an iterative optimization technique.

10. (Currently Amended) The method of claim 9, wherein selecting an alignment by maximizing ~~a goodness of~~ the alignment-generalization functional using an iterative optimization technique comprises selecting an alignment by maximizing ~~a goodness of~~ the alignment-generalization functional using a gradient-descent technique.

11. (Original) The method of claim 1, wherein simultaneously performing an alignment and generalization of the at least one trace further comprises the steps of:

computing an initial alignment and generalization of the at least one trace;

generating a procedure model of the initial alignment; and

computing a best alignment and generalization of the procedure model.

12. (Original) The method of claim 11, further comprising the step of:

repeating the steps of determining the initial alignment, generating the procedure model, and determining the best alignment until a local optimum is detected.

13. (Original) The method of claim 11, wherein generating a procedure model of the initial alignment comprises generating a Hidden Markov Model of the initial alignment.

14. (Original) The method of claim 13, wherein generating a Hidden Markov Model of the initial alignment comprises generating an Input/Output Hidden Markov Model of the initial alignment.

15. (Original) The method of claim 1, wherein simultaneously performing an alignment and generalization of the at least one trace further comprises the steps of:

determining an initial alignment and generalization of the at least one trace;

generating a transition model and an action model of the initial alignment and generalization; and

determining a best alignment of the transition model and the action model.

16. (Original) The method of claim 15, wherein further comprising the step of:

repeating the steps of determining the initial alignment, generating the transition model and the action model, and determining the best alignment until a convergence is detected.

17. (Original) The method of claim 15, wherein generating a transition model and an action model of the initial alignment and generalization comprises generating a transition model for at least one node and an action model for the at least one node.

18. (Original) A machine-readable medium having instructions stored thereon for execution by a processor to perform a method for generating one or more computer-executable procedures, comprising the steps of:

recording at least one trace of at least one instance of a procedure;

simultaneously performing an alignment and generalization of the at least one trace; and

generating the one or more computer-executable procedures consistent with the alignment and generalization.

19. (Cancelled)

20. (New) A method for generating one or more computer-executable procedures, comprising the steps of:

recording a state of a computer system;

recording at least one trace of user actions that change the state of the computer system;

performing an alignment of a plurality of user actions of the at least one trace to at least a

second trace to determine a plurality of aligned user actions;

performing a generalization of the plurality of aligned user actions to determine a plurality of generalized and aligned user actions;

selecting a generalized and aligned user action using an alignment-generalization functional to represent a respective user action of the at least one trace; and

generating the one or more computer-executable procedures executable by the computer system consistent with a selected generalized and aligned user action.